EUROPE'S WEALTH PRODUCING AREAS

Remarkable Map Showing the Geographical Relationships of the Mining and Manufacturing Districts of the European War Zone and Their Value to the Warring Nations---Can Germany Profit By Holding Industries in Belgium, France and Poland?

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At the end of the first seven months of the European war all of the mining and industrial district of Belgium and a large and important part of that in France is in the hands of Germany. The Teutons also hold part of the Russian industrial district of Poland. The Slavs, however, have taken their toll from Austria, for Russia holds most of Galicia, including the oil fields north of the Carpathians and the lignite coal near Lemberg.

The map on this page shows the geographical relationships of the industrial districts of central Europe and their control by the present lines of battle. The industrial districts are determined chiefly by the position of two minerals—coal and iron. Since it happens that the chief coal and iron mines of France, Belgium, and Russia are near the German frontiers, the well maintained lines of battle within the allies' territory enable Germany to hold not only the mines but the factories as well.

On the map the industrial districts where foundries and factories turn out machinery and textiles in time of peace, and armament and uniforms and blankets in time of war, are indicated by various symbols.

In Belgium along the River Sambre are the coal fields, near Liege, Namur, and Charleroi, which furnish power to run factories. Liege, for example, has always been engaged in the manufacture of firearms, and there the Belgians had a royal arsenal. Ghent did much weaving of cotton and linen.

A second important industrial district is in northern France, near Roubaix and Lille. Here the presence of coal for power has led to the spinning and weaving of cotton and other fabrics; and as the line of trenches in French Flanders runs west of Lille, the Germans have both the coal and the factories.

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Large Iron Reserves in France.

Nine-tenths of the iron ore of France comes from the department of Meurthe-et-Moselle, not far from the cities of Toul and Nancy, but here the Germans are not now as far within France as they were in September. The production of ore, wrought iron, and steel here is completely terminated by the war. France has other iron producing districts to the south, as at Le Creusot. There the armament factories turn out cannon and other firearms, including the big gun popularly called "Papa Creusot," which rivals the "Busy Bertha" and other artillery from the Krupp works at Essen, in Germany.

There is an interesting story about the iron ore of the French frontier. Its outcrop, as geologists call the coming to the surface of the ore, lies entirely in German territory except near Longwy. It is said that the boundary between German Lorraine and French Lorraine was purposely located by Bismarck so that France should be deprived of all the iron ore. It happens, however, that the ore bearing layers incline, or dip, toward the southwest; that is, into France. It was thought in the '70s that the iron ore did not continue valuable for any considerable depth; but as it has turned out, an exceedingly valuable part of the ore reserves are in France. Indeed, although the annual production of iron ore in France is less than half that of Germany and Luxembourg, the iron ore reserves of France are nearly equal to those of Germany. Thus it behooves France to see that Germany gains no more territory near Nancy during the war, and keeps none of the French iron ore areas after the conflict.

France also has coal fields in the Rhone valley, near Lyons, where there has been no fighting, and here it has an important manufacturing district, chiefly in the ribbon and silk trade. Hydro-electric power supplements the coal near Lyons. St. Etienne, however, not only has coal mines which supply the factories at Lyons but also is engaged in the manufacture of arms. As the map shows, there is manufacturing in still other parts of France, but nowhere as important as near Lille, Cambrai, and other towns to the north, where nearly 125,000 men were employed in the coal mines before the war, where thousands of other factory operatives depended upon the labor of these miners, and where the German troops now hold most of the industrial district, as they do the whole of mining and industrial Belgium.

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Germany's Industrial District.

The portion of Germany held by the French is not important industrially. The great areas of iron mining and coal mining do not lie in southwestern Alsace, where the French are now, although Muelhausen, which is now seriously threatened by the French, manufactures much cotton cloth. The German mines are in Lorraine, near Luxembourg, and to the north near Aachen, or Aix-la-Chapelle, and in the valleys of the Rhine and Ruhr, near Dusseldorf, Elberfeld, and Essen. The latter district produces most of the coal of Germany, and, just as we take Lake Superior iron ore to Pittsburgh, to Gary, and other places near the coal fields of the United States, so the Germans take part of their iron ore from Lorraine, and what they mine in Luxembourg to the Rhine-Westphalia district, where their largest foundries, machine shops, and armament works are located. There also they manufacture textiles. The allies have made no invasion of the West German industrial district.

Germany also has coal near Saarbrücken, in Lorraine, and still more in the extreme southeast in the latter locality the Silesian coal field, which has never been invaded by the Russians, and the iron mines at and south of Breslau lead to the development of manufacturing.

There is some coal and iron in Poland, but no great mines as yet. Nevertheless, Warsaw and Lods are great manufacturing towns, especially the latter, which is now held by the Germans. Lods is notable for textile factories, and because of this woolen, cotton, flax, and hemp manufacturing it has grown at a rate which reminds us of the cities of the western United States. It had less than 30,000 people in 1860, and 415,000 in 1910. If Germany should keep Lods at the close of the war she would gain a wonderful industrial city and district.

Of course the same thing may be said of Cracow as a prize which Russia will strive mightily to wrest from Austria, for the capital of Austrian Poland is a notable manufacturing center. Just as Germany holds the industrial district near Lods, but not that at Warsaw, so Russia holds the manufacturing district in Galicia, near Lemberg, and is striving at Cracow.

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Russia Rich in Oil.

What is perhaps more important to Germany and Austria is to regain from Russia the oil fields in Galicia, south of Przemysl. Russia is rich in petroleum, having the wonderful Caspian-Black sea district, where the Turks have made no headway. In 1912 Russia ranked next to the United States in oil production, with Roumania fourth, Galicia sixth, and Germany tenth. Germany, by contrast, produced less than a third of 1 per cent of the world's petroleum. This deficiency begins to loom up as a calamity when Russia takes the portion of Austria with the Galician oil fields, for submarines, aeroplanes, automobiles, and many other engines of war require much gasoline. Even if the German and Austrian internal combustion engines have carburetors which allow of the substitution of alcohol for gasoline, there is still a problem, for the German potatoes and sugar beets and the Hungarian corn, from all three of which alcohol can be made, will be needed for food rather than fuel.

The potash salts, which we need so badly in the United States since our European supply is cut off by the war, are abundant in German Saxony, far from the frontiers and safe from Russian, French, or English invasion. As the nitrate of potassium is the basis of gunpowder and other explosives, the Germans are fortunate in their supply, always provided they have enough to last through a protracted war.

Germany ranks only ninth in the world in the production of copper. Her colonies of Southwest Africa and elsewhere rank fourteenth, Austria comes fifteenth, and Turkey nineteenth. Now, copper is so necessary in making brass, and brass is so requisite for large and small shells, that copper becomes a prime factor during a long war, especially if the copper poor country is cut off from renewal of supply. Thus, although none of the German copper mines has been taken by the allies, and the Austrian copper near Cracow is still safe from the Russians, the copper supply of Germany is vital.

In years past she has imported more copper from the United States than any other foreign power. Doubtless this has been used chiefly in her manufactures, and there is no way to tell how much copper may have been hoarded for war purposes. It has been estimated that during a year of war Germany would use three times as much copper as she could provide. Even this allows for the recovery and repeated use of some of the brass from shells. It is perfectly conceivable that lack of copper, however, might end the war.

Lack of potash salts for gunpowder, lack of petroleum for gasoline, lack of copper for brass shells—no one of these threatens Germany so severely as lack of food for soldiers and lack of food for noncombatants. What shall it profit Germany if she hold the industrial districts of Poland, Belgium, and of France and then lose in the conflict because of the blockade and through lack of essentials within her own territory?